



YPF finds a perfect fit for drilling with casing operations using the new TenarisHydril Wedge XP™ connection

TenarisHydril Wedge XP™ connections offered outstanding torque capability and improved running performance in two mature fields in Argentina.

Summary

A new solution

YPF, the National Argentine oil and gas company, wanted to promote reliability and reduce risks in two drilling with casing operations in mature fields in the Argentine provinces of Santa Cruz and Mendoza.

The new TenarisHydril Wedge XP™ connection on a 5 ½" 17# K55 production casing offered YPF outstanding torque strength and easy make-up. This technology combined with Tenaris's field services allowed both operations to be conducted without major difficulties, and YPF even reached a record depth for its drilling with casing operations in the San Jorge basin, located in the Santa Cruz province.

Challenges

Ample torque capability for drilling with casing

YPF needed to reduce operational times in two wells where they were using the drilling with casing technology. One of the wells had a total depth of 2,153 meters and was located in the San Jorge Basin in Santa Cruz, while the other one had a total depth of 662 meters and was located in the Neuquén Basin in Mendoza.

A connection with extra torque resistance that could ensure a high margin of safety was required to withstand the drilling conditions and reduce the risk of having to pull out the string during the operation. The chosen connection had to be robust and present good runnability in order to materialize the operational advantages that drilling with casing brings.

YPF was also looking for a cost-efficient solution for its operations in mature fields.

PROJECT PROFILE

Operator
YPF

Products highlighted

- TenarisHydril Wedge XP™ connection

Location

Provinces of Mendoza and Santa Cruz

Services provided

- Field Services
- Make-Up Quill Service

Application

Mature Fields – Drilling with Casing



- ▲ TenarisHydril Wedge XP™ connections offered YPF outstanding torque capability and were easy to make-up.

Solution

Exceptional torque resistance

The company decided to run a production casing string with 5 ½" 17# K55 TenarisHydril Wedge XP™ connections, the latest incorporation of the Wedge Series. With an operative torque of 17,685 ft-lb, the Wedge XP™ offers exceptional over-torque performance, achieved thanks to the remarkable robustness of the Wedge thread design combined with a pin-to-pin backup mechanism.

As with other TenarisHydril Wedge connections, its lower threads per inch profile (3.4 vs. 5 TPI of the BTC-modified connections), rugged coarse thread design and deep stabbing allow for speed of installation.

The robustness of the TenarisHydril Wedge profile also reduces the number of rejects and re-make-ups, while the connection make-up is simple enough to avoid the need for a torque-turn chart. This enhanced runnability offered by the Wedge XP™ connection significantly improves installation times.

Integral solutions for the oil and gas industry

For the first runnings, Tenaris's field service and technical sales specialists worked onsite with YPF to ensure that the correct practices were followed and the products were properly installed and used.

Tenaris also offered YPF its make-up quill service, an accessory specifically designed by Tenaris. This cost-efficient solution allows for the transmission of torque from a top drive to the casing through a simple and reliable mechanism.

Results

Improved reliability

Through the use of the TenarisHydril Wedge XP™ connection, YPF achieved smooth operations in both Mendoza and Santa Cruz. This solution was not only cost efficient, but it also allowed the operator to make the most of the drilling with casing technique.

In the San Jorge basin, YPF drilled 1,703 meters with a running performance of 3/4 mins for the complete joint make-up, conducting the operation with zero re-makeups and rejects. During the operation, the weight on bit (WOB) reached up to 14 tons with



▲ Tenaris's field service and technical specialists worked side-by-side YPF in both the Province of Mendoza and the Province of Santa Cruz.

a torque at surface that increased up to 14,500 ft-lb and was successfully withstood by the Wedge XP™. YPF acknowledged that the Wedge XP™ is the only connection that can handle this torque level in such a K55 pipe with a slim wall.

In the Neuquén basin, the operator drilled 360 meters (302 to 662 m). The WOB reached up to 6 tons and the Wedge XP™ connection easily withstood a torque of 7,500 ft-lb.

In both experiences, and confirming the robustness of the connection, members of the drilling teams underlined that this product seemed to perform as robust as a drill pipe.

YPF highlighted that it achieved a record depth for its drilling with casing operations in the San Jorge basin, one of its most important areas for this type of drilling technique. A survey conducted by YPF to evaluate the results of the operation had a maximum score of 95/100 for the Wedge XP™ connection, which was approved by YPF for use in deep drilling with casing operations.



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